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THE VALUE OF MYSTICISM.

Mysticism is the blight of science. Mysticism in science is like a fog in clear daylight. It makes the steps of the wanderer unsafe and robs him of the use of his most valuable sense—the sense of sight. There is impenetrable darkness around him; everything is confused by insolvable problems. The whole world appears to the benighted mystic as one great and inscrutable enigma.

Mysticism in religion is widely different. It is here where the value of mysticism must be sought for. But religious mysticism does not claim that truth is unknowable. It claims not only, as does science, that truth can be *known*, it claims that truth can be *felt* even before it is known. Truth is a strong and wholesome power, unconquerable and omnipotent, which is available not only to the knowing but to those also who grope in the dark, yet cherish the love of truth in their hearts.

A scientist can scientifically enquire into the social laws, and can after a life-time of long and laborious study arrive at the truth, that what is injurious to the swarm is not good for the bee. The ethical maxims: thou shalt not steal, thou shalt not kill, thou shalt honor father and mother, the scientist will perceive, are not cunningly invented by religious or political leaders, they are the indispensable conditions under which alone society can exist. Wherever they are not heeded the whole community will go to the wall. The individual that sins against these laws will injure society, yet he will ruin himself at the same time.

The ethical truths are important truths, and it is good to know them, to understand their full importance. Yet even those who are unable to grasp them in their minds; those who have not the scientific knowledge to see how the moral law works destruction to the trespasser and is a blessing to him who keeps the law—even the unscientific, the poor in spirit, can feel the truth; they can trustingly accept it on faith and *can be sure* that they are right. And truly, if they do accept it, if they act accordingly, they are better off than those scientists who have arrived at some approximations that upon the whole it is perhaps after all even for the single individual better to be honest, than to be shrewd.

There are scientists and among them some of great name and fame, who after a life-time of long and laborious study did not arrive at the ethical truths that the moral commands will preserve, and that they do preserve, both the individual who keeps them and the society to which that individual belongs. There are naturalists who are very familiar with a certain province of nature, especially with the brute creation. They say, not the morally good will survive, but the strongest, the cunningest and the shrewdest. The naturalists who say that, are most learned professors; they are crammed with biological data, and have made many zoölogical observations; they know facts of nature and have classified them as natural laws—but Nature herself has not revealed her divine face to them. They have not entered the holy of holies in the temple of Creation, for they see parts only, and do not perceive the whole; they overlook the quietly working tendencies of the whole. They misinterpret the meaning of the partial truths that happened to come under their observation.

Moral truth can be felt. Therefore let religious mysticism gain hold of man so as to make him feel the truth of the moral law even before he is able to understand it.

The moral feeling is man's conscience. The moral law and man's trust in the truth of the moral law must not be planted into the reasoning faculty of man only, it must be planted by example and instruction into his heart long before the reasoning faculty of his mind is developed. It must be made part of his inmost soul long before he commences to study, to learn, and to observe. It must be the basis of his whole being, and the determining factor of his will.

If the moral law were merely superadded in later life, if its presence in our minds rested upon abstract conclusions only, upon logical arguments and syllogisms, how uncertain, how precarious would its influence be upon our lives. Rational insight must come to strengthen the moral truth of our soul, but its roots must be deeply buried in the core of our heart. Science will come to explain what conscience is, and why conscience is right in this or in that case, science will also assist us to correct an erring conscience, but if the basis of a man's character has not been laid in early childhood, science will come too late to benefit him through moralizing arguments.

A conscience that is grounded upon ratiocination only, is weak in comparison to a conscience that permeates the whole being of a man, his emotions, his will, and his understanding; his heart as well as his head. Conscience must be, as we say in popular speech, our "second nature"—yea, it must be our "first nature," so that in all situations of life, in tribulations, and in temptations it will well up unconsciously with an original and irresistible power, even before we can reason about the proper course of our actions.

The tempter approaches us always in the name of science, but his arguments are not science, they are pseudo-science. The tempter says: "Do not be foolish, be wise. The criminals are convicted not for their crimes but because they were fools; they were not shrewd enough to escape the consequences of their deed. Be wise, be cunning enough, and thou wilt outwit all the world." There is no criminal who did not think himself wise enough to escape the law, and if he regrets at all, he will commonly regret not the deed but one or the other of his mistakes which, as he supposes, betrayed him. The criminal tries to remove the vestiges of his deed; yet the acts done to this purpose become new and powerful witnesses against him. They, chiefly, become the traitors that deliver him to the judge.

Do not be deceived by the pseudo-wisdom of your thoughts that lead you into temptation. They will lead you into ruin, if you follow them. Do not be deceived by the escape of evil-doers from their legal punishment; they carry a punishment within them which is worse than the penitentiary. Neither be deceived by the success of the unprincipled. Many of those whom you suppose to be morally depraved, are perhaps after all not so unscrupulous as you think. They may have virtues and abilities, strength of will, power of concentration, industry, intelligence, foresight in business combinations, of which you think little, but which meet the wants of their time and serve the common good. Such men succeeded, perhaps, in spite of those faults in their characters to which you erroneously attributed their success. If they are really unprincipled, and are successful in their enterprises, do not judge of them before you have seen the fulfillment of their destiny.

The royal psalmist of Israel, the shepherd boy, who was a poet and at the same time a hero, who became the king of his nation because he treated even his enemies with justice, had during his career often seen the unprincipled succeed, and so he sang:

I have seen the wicked in great power and spreading himself like a green bay tree.

But David continues:

Yet he passed away, and, lo, he was not; yea I sought him but he could not be found.

Mark the perfect man and behold the upright, for the end of that man is peace.

It may seem to you as if crooked means were better than straightforward truth, as if small trickery and well-calculated deceptions would gain the victory over the simplicity of honest dealing. It may seem so to you and it may seem so to your friends and advisers. It is not! Truth and justice are always stronger than the strongest lies. And if you do not understand it, believe it and act accordingly.

I do not mean to say that if your cause is just, if you are morally good and honest in your purpose, that truth and justice will come down like gods from heaven to assist you. O, no! You must fight for truth and you must stand up for justice with all your abilities and foresight. What I mean to inculcate is not blind confidence in the victory of truth and justice, as if they intended actually to appear on earth to work for you, instead of your working for them: I mean to say that, under all circumstances, falsity, untruth, injustice, and all immoral means, however cunningly they may be devised, are the most dangerous allies. Whoever associates with them will be sure to go to wreck and ruin. The way to success, to a final and solid success is only that steep and thorny path on which virtue led the Greek hero to Olympus. Because strait is the gate, and narrow is the way which leadeth unto life and few there be that find it.

IS LOGIC A DUALISTIC SCIENCE?

BY PROF. JOHN DEWEY.

The Newer Logic may be roughly described as an attempt to take account of the methods of thinking employed by science, that is, of the methods the aim of which is truth, and which deal with a material of fact. It thus contrasts with the old scholastic logic, which may be roughly described as an attempt to deal with thinking *in vacuo*, that is with methods which leave out (or abstract from) the material of fact, and which have no aim except non contradiction of their own premises—self-consistency. We may call the latter the Logic of argument, not of truth; but the former is the Logic of science, *i. e.*, of actual knowledge.

Lotze, Sigwart, Wundt in Germany, Jevons, Bradley, and Bosanquet in England are representative names in this new logic. To it also Venn's *Empirical Logic* is a most noteworthy recent contribution. While written from a philosophical standpoint differing from that of most of the foregoing names, it has an aim common with theirs. It treats thinking as a process having relation to truth. I confess, for my part, that I could have wished Venn had chosen another philosophical standpoint; but without going into matters of ultimate interpretation, Venn raises plenty of questions well worth discussion on their own account as purely

logical. Among these, as one of the most important, I would place this: Does logic imply a duality, which for logic is ultimate? Venn answers in the affirmative, calling attention however to the fact, that he means only to assert that dualism is ultimate for *logic;* the metaphysical question is not raised.

Venn's own statement is as follows: We must take for granted a duality. On the one hand, outside of us, there is the world of phenomena pursuing its course; and, on the other hand, within us, there is the observing and thinking mind. Logic is concerned with the judgments of the latter about the former. "The thorough-going retention of this duality is one of the leading characteristics of the whole treatment adopted in this work" (Page 22). He then goes on to show the evils resulting from a purely subjective or a purely objective treatment. The latter "would confine us to a bare statement of those laws which lie at the basis of all inductive inference," while logic must always bring in the attitude of the mind in estimating or appreciating facts. The objective view would thus exclude the whole field of inference. The purely subjective treatment, on the other hand, would reduce logic to the bare logic of self-consistency, without relation to the true or to the false. So Venn concludes (p. 26) that while there are "some sciences, like Psychology, in which the primary reference is throughout to the mental processes, there are others, like the ordinary physical sciences, in which the primary reference is throughout to the external phenomena. But a science like logic, which has to do with the processes of the human mind when judging about phenomena, occupies necessarily an intermediate position."

Now when I say that all that Mr. Venn says about the evils of a purely subjective or purely objective treatment seems to me wholly sound, and that I would agree with him in saying logic deals with the process of thought in judging about phenomena,—when I say this, I may seem to have closed the door to further discussion. But I would call attention to the fact that these phrases may have two meanings. They may mean that the mental process, the 'internal thought,' and the objective phenomena, the 'external thing,' are, for logic at least, wholly independent and separate data, and that then the logical process comes in as a third thing and brings one to bear upon the other. This is the sense in which Mr. Venn interprets the dualism and is the sense in which I should reject it. Or, again, the dualism may be interpreted as being *inside*, as it were, the logical process. That is to say, we may hold that the "mental process of the mind in judging about phenomena" is for logic, at least, ultimate and decisive. The duality between the object perceived and the thought conceived is not one with which the logical process begins, but is the result of a logical process; that is, so far as *logic* has anything to do with it.

We may illustrate the difference as follows: *There* is the physical object, the sun moving in the heavens. *Here* is my idea or concept of this object. Does logic begin with this dualism and then go on to consider how the idea may be brought into conformity with the object?

Mr. Venn would answer 'Yes.' To me it seems as if the judgment of the mind were, for logic, the primary fact, and as if the distinction between the idea and the fact were one which takes place within and on account of the judgment—the logical process. The question involves more than at first appears. Are there, for logic at least, two worlds, of which one has to be brought into conformity with the other, or is there but one world, and that one logical through and through?

If the question concerned a world of objects wholly unrelated to mind, it would be impossible to discuss it without raising all manner of metaphysical difficulties; but, fortunately, Mr. Venn accepts the doctrine of the 'relativity of knowledge.' He says (page 16), "we postulate a world or aggregate of objects—not out of relation to human faculties in general, which would be absurd—but conditioned in relation to our representative state of faculties." And on page 28 he expressly says: "We are in no wise concerned with the question which for ages perplexed philosophers, viz., in what sense our ideas 'resemble' or are 'copies of' actual external objects. All that we compare is the impression at first hand and at second hand, the presentation and the representation." And so on page 384 he says, that it is the general aim of logical processes to secure a complete and accurate correspondence between what we think and conceive within us, and what we *observe* and *feel* without us. The question is then: How are perception and observation logically related to thinking, to conception? Does logic take up its task when these are furnished to it ready-made, thus having a dualistic basis, or do logical processes enter equally into both perception and conception, so that, from a certain standpoint, each has a logical character?

I shall attempt to sustain the latter position. In holding that logic is not dualistic, because logical processes enter into presentation as well as into scientific methods, I may, in some sense, rely upon the authority of Mr. Venn himself. One of the striking features of his logic is the way in which he attacks our "habit of regarding what we call 'objects' as being in a way marked out by nature, always and for all beings" (page 6). This habit is so far from being justified that as he says (page 5), "Select what object we

please—the most apparently simple in itself, and the most definitely parted off from others that we can discover—yet we shall find ourselves constrained to admit that considerable mental process had been passed through before that object could be recognized as being an object, that is as possessing some degree of unity, and as requiring to be distinguished from other such unities." And Mr. Venn shows clearly and decisively, to my mind, that in the most elementary recognition of an object processes of analysis and synthesis of very considerable complexity are involved. In his forcible comparison, to expect a dog who could not exercise quite a complex analysis and synthesis to perceive a rainbow, would be hardly more reasonable than to expect him to 'see' the progress of democracy in the place where he lives—although the ultimate constituent sensible events are as accessible to his observation as they are to ours (page 7; compare pages 143–144).

In a like manner, Mr. Venn attacks what he well calls the 'alphabetic' view of nature; the idea that objects come to us, so sharply discriminated and separated that one may be represented by *A*, another by *B*, and so on. "Generally speaking what we mark out by the letters *A*, *B*, *C*, are more or less fictitious entities, that is, they are manifold groups, held together in a mental synthesis with the cohesive assistance of names. . . . . The mere reference to individuals, as the basis or starting point of our instruction presupposes that something has already been done to recognize and constitute these *A*, *B*, *C* as individuals" (page 345).

Now it seems to me that as soon as we give up the view that objects are presented to the mind already distinguished from others and united into cohering wholes, we are tacitly admitting that logical processes enter into the recognition, or observation of facts. When we go further and say that the individual object becomes such to us only through a process of mental synthesis and analysis, it seems to me that the admission is more than tacit—it is express. The only ground on which the logical character of recognition of objects could be denied, would be that mental analysis and synthesis are not logical processes. I hardly think Mr. Venn would take this position; still less can I see how he or any one else would uphold it. Mr. Venn when treating more expressly of the nature of analysis and synthesis, remarks (page 398) that "these processes are best regarded as being merely subdivisions of a much more far reaching process, viz., that of framing hypotheses or suppositions. Set this faculty to work; employ it in separating wholes into their parts and gathering up parts in order to constitute new wholes, and we have what are known as analysis and synthesis." From this view it would certainly follow that our first perceptions of objects, being due to analysis and synthesis, are, in a sense, tentative hypotheses which we form in order to account for our experiences. Of course from the standpoint of ordinary experience it sounds absurd—and is absurd for that matter—to say that 'the fire burns' is a hypothesis. But from the logical standpoint, it is far from being absurd. Whence the whole chemical theory of combustion, and what is the need of it, unless the first judgment that 'fire burns' is, after all, only a tentative and crude analytic-synthetic process, needing to be carried farther, to be corrected, and, finally, transformed into a hypothesis more nearly agreeing with facts? If this is not evident, substitute the judgment 'the sun moves' for the one 'the fire burns.' The objection most likely to be made to this doctrine that presentation itself has a logical value and basis, is, I imagine, that logical processes begin only when we are aiming at truth—only when we have a definite end in view which controls the process, and that there is no such aim or end in ordinary observation. That we are not *consciously* aiming at truth and that there is no *conscious* criterion or standard which controls the mental process in pre-scientific perception, is, of course, admitted. And this unconscious functioning of logical processes in perception seems to me to be just its *differentia* (logically, I would not say psychologically or metaphysically) from scientific thinking. Ordinary perception and scientific reflection have just the same material, and follow, in the rough, the same methods. There is hypothesis, induction, and deduction, inference, generalization, classification, analysis, synthesis, whatever logical process you please to take, in the perception of the sun as shining. But for the very reason that these processes are unconsciously followed they are uneconomical, imperfect, incorrect; they contain irrelevant material and leave out what is really coherent. In a word, since the logical principles are unconscious, the result is largely illogical, that is, false. Compare such a statement as 'the sun shines' with the statement which a modern astronomer would make, when speaking from the standpoint of science, about just the same experience. The latter judgment would be carefully qualified; it would be accurately quantified; the conditions, chemical and physical, of the fact would be developed. The transformation would be so great that an ordinary layman reading the scientific proposition would probably not recognize that it had any kinship to his judgment—'the sun shines.' But the real subject-matter would be the same.

We do not have then two things first given—one, the facts of observation, the other the mental concepts, and then, thirdly, a logical process, starting from this dualism, and attempting to make one side of it con-

form to the other. Knowledge from the first, whether in the form of ordinary observation or of scientific thinking, is logical; in ordinary observation, however, the logical process is unconscious, dormant, and hence goes easily and inevitably astray. In scientific thinking, the mind knows what it is about; the logical functions are consciously used as guides and as standards. But knowledge, experience, the material of the known world are one and the same all the way; it is one and the same world which offers itself in perception and in scientific treatment; and the method of dealing with it is one and the same—logical. The only difference is in the degree of development of the logical functions present in both.

We get the same result, if we consider from a somewhat different point of view the relations of observation and inference. And here, again, Mr. Venn may furnish the starting-point. For he himself admits that we cannot find any material which is 'pure' observation—that is observation without any element of inference. "Really ultimate data can no more be reached than can a first point or absolute limit in time or space." "The starting point is a merely conventional one, assumed for convenience. Everywhere, wherever we look or find ourselves, we seem to be in possession of data which are familiar to us and are justified by experience. This is our starting-point, and not any really primitive data" (pages 115 and 116). The ground for this position will occur to anyone familiar with Mill's analysis of the proposition, "I saw my brother at a certain hour this morning," where he points out that everything is inferential excepting some data of color. Venn chooses a somewhat more complex case. Some one proposes to join a walking party and it is said of him: "I can see plainly enough that he will not be fit for our excursion." The least analysis would resolve this into: 'I see the man is ill, and therefore conclude he cannot take a long walk.' But do we *see* that the man is ill? Obviously, we only see that he is pale, has a lax gait, etc., and hence *infer* he is ill. And each one of these apparent observations may be analyzed into an inference. Even our estimate of paleness, a color pure and simple, psychological analysis shows to be no ultimate datum, but in great part an inference.

Now if it be admitted that observation involves inference indefinitely continued, what becomes of the duality which logic had to assume as its starting-point? If there is no *pure* presentation, no fact of sense-perception not already qualified by logical processes, how can it be said that logic has to do with a comparison of the concept with the datum of presentation? Logic seems somehow to be concerned with the observation itself. Instead of having a dual material supplied to it, it is present wherever there is any known material. There is but one world, the world of knowledge, not two, an inner and outer, a world of observation and a world of conception; and this one world is everywhere logical. As the world of ordinary perception it is logical, but its logical character is undeveloped, is latent, and hence is utilized at random, that is to say, extravagantly and erroneously. As the world of scientific reflection, it is more completely logical, because its logical character is brought to consciousness, is rendered explicit, and is thus used as a criterion, or a standard, in a word, as the truth by which the false and the irrelevant may be excluded. The result is that logic has no dualistic basis.

ANN ARBOR, January, 1890.

THOUGHT THICKER THAN BLOOD.

BY PROFESSOR F. MAX MÜLLER.

I HAVE been asked the question, a very natural question, and one that has often been discussed since the discovery of Sanskrit and since the establishment of a close relationship between Sanskrit, Persian, Greek, Latin, Russian, German, English, and Welsh—Does the close relationship of these languages prove a real relationship between the people who speak these languages?

At first sight, the answer seems very easy. As a negro may learn English and become, as has been the case, an English bishop, language by itself could hardly be said to prove relationship. That being so, I have always, beginning with my very first contribution to the Science of Language—my letter to Bunsen 'On the Turanian Languages,' published in 1854—I have always, I say, warned against mixing up these two relationships,—the relationship of language and the relationship of blood. As these warnings, however, have been of very little avail, I venture to repeat them once more, and in the very words which I used in the year 1854:—

'Much of the confusion of terms and indistinctness of principles, both in ethnology and philology, is due to the combined study of these heterogeneous sciences. Ethnological race and linguistic race are not commensurate, except in ante-historical times, or perhaps at the very dawn of history. With the migrations of tribes, their wars, their colonies, their conquests and alliances, which, if we may judge from their effects, must have been much more violent in the ethnic than ever in the political periods of history, it is impossible to imagine that ethnological race and linguistic race should continue to run parallel. The physiologist should therefore pursue his own science, unconcerned about language. Let him see how far the skulls, or the hair, or the color, or the skin of different tribes admit of classification; but to the sound of their words his ear should be as deaf as that of the ornithologist must be to the notes of caged birds. If his Caucasian race includes nations or individuals speaking Aryan (Greek), Turanian (Turkish), and Semitic (Hebrew) languages, it is not his fault. His system must not be altered in order to suit another system. There is a better solution both for his difficulties and for those of the philologist than mutual compromise. The philologist

should collect his evidence, arrange his classes, divide and combine, as if no Blumenbach had ever looked at skulls, as if no Camper had ever measured facial angles, as if no Owen had examined the basis of a cranium. His evidence is the evidence of language, and nothing else; this he must follow, even though it it were in the teeth of history, physical or political. Would he scruple to call the language of England Teutonic, and class it with the Low-German dialects, because the physiologist could tell him that the skull, the bodily habitat of such language, is of a Celtic type, or because the genealogist can prove that the arms of the family conversing in this idiom are of Norman origin? With the philologist English is Teutonic, and nothing but Teutonic. Ethnological suggestions as to an early substratum of Celtic inhabitants in Britain, or historical information as to a Norman conquest, will always be thankfully received by the philologist; but if every record were burnt, and every skull pulverised, the spoken language of the present day alone would enable the philologist to say that English, as well as Dutch and Frisian, belongs to the Low-German branch—that this branch, together with the High-German and Scandinavian, belongs to the Teutonic stock, and that this stock, together with the Celtic, Slavonic, Hellenic, Italic, Iranic, and Indic, belongs to the Aryan family. . . . .

'There ought to be no compromise of any sort between ethnological and philological science. It is only by stating the glaring contradictions between the two sciences that truth can be elicited . . . . Ever since Blumenbach tried to establish his five races of men (Caucasian, Mongolian, American, Ethiopian, and Malay), which Cuvier reduced to three (Caucasian, Ethiopian, and Mongolian), while Prichard raised them to seven (Iranian, Turanian, American, Hottentots, Negroes, Papuas, and Alfonrous,), it was felt that these physiological classifications could not be brought to harmonize with the evidence of language. . . . . This point was never urged with sufficient strength till at last Humboldt, in his Kosmos (I, 353) stated it as a plain fact, that, even from a physiological point of view, it is impossible to recognize in the groups of Blumenbach any true typical distinction, any general and consistent natural principle. From a physiological point of view, we may speak of varieties of man,— no longer of races, if that term is to mean more than variety. Physiologically the unity of the human species is a fact established as firmly as the unity of any other animal species. So much then, but no more, the philologist should learn from the physiologist. He should know that in the present state of physiological science it is impossible to admit more than one beginning of the human race. He should bear in mind that Man is a species, created once, and divided in none of its varieties by specific distinctions; in fact, that the common origin of the Negro and the Greek admits of as little doubt as that of the poodle and the greyhound. . . . .'

I have made this long extract from a book written by me in 1854, because it will show how strongly I have always deprecated the mixing up of Ethnology and Philology, and likewise that I was a Darwinian long before Darwin. At that time, however, I still entertained a hope that the physiologist might succeed in framing a real classification of races, on the evidence of skulls, or the skin, or the hair, as the philologist has succeeded in forming a real classification of languages, on the evidence of grammar. But in this hope we have been disappointed. Mankind has proved obstreperous, it has not allowed itself to be classified. According to Darwin, all men form but one species, and to his mind that species overlaps even the limits usually assigned to mankind. So far there seems to beat present a general agreement among physiologists. But all further attempts at classifying the human species have signally failed. Some biologists (Virey) have proposed two classes; Cuvier proposed three, Linnaeus four, Blumenbach five, Buffon six, Prichard and Peschel seven, Agassiz eight, Pickering eleven, Friedrich Müller twelve, Bory de St. Vincent fifteen, Morton twenty-two, Crawford sixty, and Burke sixty-three.* This does not prove that all these classifications are wrong. One of them may possibly hereafter be proved to be right. But at present not only is there the most decided disagreement among the most eminent biologists, but some of them, and these men of high authority in biological science, have themselves given up the whole problem of classifying mankind on physiological grounds as utterly hopeless. Oscar Peschel, in his classical work 'The Races of Man and their Geographical Distribution,' sums up his conclusions in the following words: 'We must needs confess that neither the shape of the skull nor any other portion of the skeleton has afforded distinguishing marks of the human races; that the color of the skin likewise displays only various gradations of darkness; and that the hair alone comes to the aid of our systematic attempts, and even this not always, and never with sufficient decisiveness. . . . . Who then can presume to talk of the immutability of racial types? To base a classification of the human race on the character of the hair only, as Haeckel has done, was a hazardous venture, and could but end as all other artificial systems have ended.'

Nor does Peschel stand alone in this honest confession that all classification of the human race based on the color of the skin, the texture of the hair, the shape of the skull, has completely failed. No one has of late done more excellent work in ethnology than the indefatigable Director of the American Bureau of Ethnology, Major Powell. Yet this is what he says†: 'There is a science of anthropology, composed of subsidiary sciences. There is a science of sociology, which includes all the institutions of mankind. There is a science of philology, which includes the languages of mankind. And there is a science of philosophy, which includes the opinions of mankind. But there is no science of ethnology, for the attempt to classify mankind in groups has failed on every hand.'

The very Nestor among ethnologists, Horatio Hale, from whose essay on 'Race and Language'‡ I have largely quoted, has, after a long life devoted to ethnological and linguistic studies, arrived at exactly the

* Horatio Hale, *Race and Language*, p. 340.
† *Science*, June 24, 1887.
‡ *Popular Science Review*, January, 1888.

same conclusion, and expressed it with the same openness, that the classification of mankind cannot be founded on color, hair, or skull, but must be founded on language.

This is, no doubt, a great collapse. We had all been brought up with a belief in a white, a yellow, a brown, a red, and a black race; or, if we entered more deeply into the subject, we seemed perfectly certain of a Caucasian, Mongolian, American, Ethiopian, and Malay race. More recently, the division of the human race according to the texture of their hair, as proposed by Haeckel and adopted by Friedrich Müller in his learned work on Ethnology, was accepted by the new school of ethnologists as meeting all objections that had been made to former classifications. Still, it is far better to confess that no satisfactory classification has as yet been discovered, than to maintain that hair, color, and shape of skulls have proved real criteria of racial distinction. It does not follow by any means that further research may not bring to light a real divisor of the human race. At present, however, color of skin is in conflict with shape of skull, and shape of skull is in conflict with texture of hair. What we want is a principle of division that shall do justice to most, if not to all, the essential qualities of the varieties of man, provided always that such essential qualities can be discovered.

Till this is done, I agree with Mr. Horatio Hale that the most satisfactory, nay the only possible division of the human race, is that which is based on language. No one doubts that languages can be classified, and that the true principle of classification is their grammar. If some languages stand as yet apart, which hereafter may be proved to be related, or if other languages have not as yet been analyzed at all, that does not interfere with the enormous area of human speech which has been carefully surveyed. It is, of course, of that area alone that we can make any assertion, and our assertion is that the people who speak the same or cognate languages may, nay must, be treated as closely related. In modern times the frequent intercourse between all the people of the world, and the facility with which foreign languages may be acquired, are apt to make us look upon language as something, not essential, but purely accidental. But that was not the case in ancient times; and though the acquisition of a foreign language may be accidental, language as such is not. It is language that makes man man. Language is surely more of the essence of man than his skin, or his color, or his skull, or his hair. Blood, flesh, and bone are not of our true essence. They are in a constant flux, and change with every year, till at last they return to the dust. Our body is our uniform, very tight sometimes, very painful to put on and to put off, but still our uniform only. It matters very little whether it is black or white. Language, on the contrary, is the very embodiment of our true self. Take away language, and we shall indeed be mere animals, and no more. And, besides that, it is language that binds individuals together into families, clans, and nations, and survives them all in its constant growth, thus enabling us to base our classification on general and permanent characteristics, and not on peculiarities which, for all we know, may be the result of climate, diet, and heredity.

There can be no doubt that in the beginning at all events, the members of one family spoke one and the same language. When families grew into clans and nations, they would continue to speak the same language, and if colonies started from their original home, they could not but carry the same language with them.

But it is objected, that in the spreading of nations a mixture would necessarily occur between, say, white and black tribes.

No doubt it would, and it is for this very reason that physiological classification breaks down, while linguistic classification, though it becomes more difficult, does not become impossible. After blood has once become mixed, no scientific test has yet been discovered for distinguishing its ingredients. No one can tell, for instance, whether the offspring of a white man and a black woman should be classed as Caucasian or as Negro. The color may be quite white or quite black, or something between the two. The nose and mouth may be Negro-like, and yet the color may be fair, and the shape of the skull and the texture of the hair may be Caucasian. After one or two generations certain varieties may either become permanent, or they may, by the force of atavism, return to their original type. New mixtures of mixed or mongrel offspring with other mongrel or with pure breeds will make confusion even worse confounded, and after hundreds and thousands of years, the very possibility of pure breeds may very justly be doubted. How then should we dare in our days to classify mankind according to such variable peculiarities as color, skull, or hair?

The case is very different with regard to languages. No doubt, while this social intercourse between black and white people takes place, the white might adopt some words from the black, and the black from the white people. But these words could nearly always be distinguished, as we are able to distinguish French, Latin, and Greek words imbedded in English. And there would always remain the criterion of grammar, which enables us to say that English is and remains a Teutonic language, even though every word in an English sentence should be, as it often is, of Latin origin.

Lastly, it should never be forgotten, that if we speak of Aryas, we mean no more than the speakers of Aryan languages. As to their color, skull, or hair, we neither assert nor imply anything, unless we happen to know it from other sources. We may thus use 'languages' as a synonym of 'people,' just as Nebuchadnezzar addressed his subjects, 'O people, nations, and languages.' It is quite possible—in fact, it is almost inevitable in the constant turmoil of history—that the same language may come to be spoken by the white and the black, or any other variety of man. We take that for granted, and we should always have to make allowance for it, whenever we have to make any assertions as to the physical appearance of the Aryan or Semitic or Turanian speakers. But even then there remains the fact that, whenever there is a mixture of language, there is at the same time a much greater mixture of blood; and while it is possible to analyze mixed language by scientific tests, no tests whatever have as yet been discovered for analyzing mixed blood. It would be very hazardous to say that hereafter such tests may not be discovered, and that a classification of the human race according to physiological peculiarities is altogether impossible. What I maintain is that all attempts *hitherto made* have failed, and that if we want to classify the species to which we belong, we can only do it on linguistic grounds.

Much fault has been found with a remark which I made many years ago, that the same blood runs in the veins of the Sepoy and of the English soldier, that they are brothers in blood as well as brothers-in-arms. And yet, though it is difficult to prove it in every single case, all speaks in favor of supposing that the soldier who speaks English and the soldier who speaks Bengâlî, must be descended from ancestors who in far distant times spoke the same language and shared the same blood. There may be Sepoys of Mongolian origin; but though of course I did not mean them, yet the probability is that even they, if they have learned to speak an Indian vernacular, are descended from ancestors who intermarried with women of Aryan origin. As a rule, no tribe, whether conquered or conquering, adopts the language of the conquerors or the conquered, and abstains at the same time from intermarriage. And what one single marriage may produce can easily be shown. Let there be one couple of a black man and a white woman, and suppose they have two children, a boy and a girl. Let that boy and that girl marry two outsiders, whatever their color may be. Then, if each of these couples has again two children, there would be four mongrels. In another twenty years these four might produce eight, and in another twenty years these eight might possess a family of sixteen mongrels. If this process is carried on at the same not very extravagant ratio of two children to every couple, six hundred years would suffice to produce a population of 2,149,196,448 human beings. This, I believe, is more than the population of the whole earth. If we ask what the language of all these people would be, the answer is easy. It would be the language of one of their two ancestors, and it need not differ from that language more than the English of to-day differs from that of Robert of Gloucester. But however much it differed, we could always discover whether the grammar, the lifeblood of their language, was like that of the Negroes or like that of the Greeks. With regard to color, skull, and hair, however, it would be impossible to hazard any conjecture. If the original white man and black woman were only varieties of a common type, and their color was due to climatic influences, their offspring might be neither black nor white, but any color,—grey, brown, or red. The noses of their descendants might be Greek or Negro-like, their skulls dolichocephalic or brachycephalic, their hair straight, or curled, or tufty.

It was necessary to enter into this subject more fully, because, whether from a dislike of the idea that the same blood might run in the veins of the Sepoy and of the English soldier, or from some other cause, the idea of an Indo-European humanity has often been scouted, and our ancestors have been sought for in every part of the world rather than somewhere in Asia. You will now understand in what sense Indo-European speech is equivalent with Indo-European race, and how far we are justified with Nebuchadnezzar to use languages as synonymous with nations.

It may be that the practical usefulness of the lesson taught us by the Science of Language, that all Aryas do not only speak the same tongue, but are children of the same parents, is at present confined to the dark inhabitants of India and their fair rulers who came from the extreme West of Europe. But in time to come the same lesson may revive older and deeper sympathies between all Indo-European nations, even between those who imagine that they are divided, if not by language, at all events by blood.

The Celts of Ireland are Aryas, and speak to them only the language of the Aryan brotherhood, and the wild fancies of a separate Fenian blood will soon vanish.

The French are Aryas, and more than that, they are, to a very considerable extent, Franks, and their veins are as full of the best Teutonic blood as their language is of the best Teutonic speech. Why should the French and the Germans not learn again those neighborly sentiments which have made the westward march of the Aryan brotherhood the triumphal progress of true civilization?

The Slaves are Aryas, and so far as they are Aryas, tillers of the soil (for that is the original meaning of the word), they have preserved some of the noblest features of the Aryan race. Why should they be taught to look upon their German neighbors as aliens and enemies, when they have so many interests and so many duties in common? Why should there be strife between their herdmen, when they know that they are brethren, and there is land enough for all of them, on the right and on the left?

These may seem but idle dreams, of little interest to the practical politician. All I can say is, I wish it were so. But my memory reaches back far enough to make me see the real and lasting mischief for which, I fear, the Science of Language has been responsible for the last fifty years. The ideas of race and nationality, founded on language, have taken such complete possession of the fancy both of the young and the old, that all other arguments seem of no avail.

Why was Italy united? Because the Italian language embodied Italian nationality. Why was Germany united? Because of Arndt's song, What is the German's Fatherland? and the answer given, As far as sounds the German tongue. Why is Russia so powerful a centre of attraction for the Slavonic inhabitants of Turkey and Germany? Because the Russian language, even though it is hardly understood by Servians, Croatians, and Bulgarians, is known to be most closely allied. Even from the mere cinders of ancient dialects, such as Welsh, Gaelic, and Erse, eloquent agitators know how to fan a new, sometimes a dangerous, fire.

The Science of Language has encouraged the various national aspirations in places even where separation and national independence would mean political annihilation; it has called forth a spirit of separatism. Yet it has also another lesson to teach, that of an older, a higher, a truer brotherhood—a lesson too often forgotten, when the opposite lesson seems better to answer political ends. As dialects may well exist by the side of a national speech, nay, as they form a constant supply of life, and vigor, and homely grace to the classical language, so imperial rule does not exclude provincial independence, but may derive from the various members of a great empire, if only held under proper control, its best strength, its permanent health, and that delightful harmony which is the reward of all true and unselfish statesmanship.

VITALISM AND THE CONSERVATION OF ENERGY.

A great difference appears to exist between an animal that moves about and a stone that remains on the spot where it has been placed. It seems as if every child might easily explain it. And yet it required the lapse of centuries before scientists could tell us what were the characteristic features of animal life.

In former centuries people were satisfied to state that the animal was alive, while a stone was not alive. And we may perhaps, even in the present day, accept this explanation. But we refuse to be paid with empty words. We now ask: What is life?

In past ages it was assumed, that certain things were alive, because they contained vitality or a vital principle. This simple explanation was called Vitalism. The vital principle, it was held, manifested itself through spontaneous motion. Things that contained no vital principle were not alive; and could therefore be moved by push only, by a *vis a tergo*, as they said; that is, through a mechanical pressure from without.

The striking feature of living things, of both plants as well as animals, is their organic growth of which inanimate objects are destitute. Thus it became customary to distinguish an organic and an inorganic kingdom; and when chemistry, the youngest science, was born, a new flood of light was expected to be shed upon the obscure problem of vitality.

Chemists, indeed, discovered, that all living substance of the animal and the vegetable kingdoms consisted chiefly of four elementary substances; viz., of oxygen, carbon, hydrogen, and nitrogen. There were very slight admixtures only of a few other ingredients, such as phosphorus, sulphur, iron, chloride of sodium (salt), etc. Life, it appeared, must depend upon the interaction of oxygen, carbon, hydrogen, and nitrogen. Accordingly, these four elements were called organic substances. They were supposed to be the substances of life.

But the hope that from a difference of matter the problem of vitality could be solved, was preposterous. In many respects the so-called organic substances do not differ at all from the inorganic substances, and there exist many combinations of the organic substances that are neither of an animal nor of a vegetable nature We cannot therefore look upon living things as combinations of the organic substances; they are more than combinations of organic substances; they are organic substances in a special form which admit of a constant interaction. Substances of such a form are called organized substances—well to be distinguished from organic substances. The idea of a life-substance had to be abandoned, and scientists now tried to explain the problem of vitality from the supposition of a vital energy. This vital energy was considered as different from any other kind of energy, and many very prominent scientists looked upon it as a supernatural quality which lay beyond explanation.

The theory that a vital energy animates living bodies was maintained until half a century ago by our most prominent physiologists. But it received its

death-blow, when the law of the conservation of energy was recognized to the full extent of its importance. We now know that all forces in nature are motions of some kind: light and electricity are undulations of ether; heat is a molecular vibration; and mechanical motion, change of place or visible movement, can be transformed into any other energy, electricity, light, or heat. *Vice versa*, motion can be reproduced from the other energies.

Energy* certainly often seems to disappear and can apparently be created again. But it can be shown that energy, when it disappears, reappears in another form, and that the energy thus created did exist before, it was only transformed. Energy may be latent; and latent energy can be set free again. Because latent energy *can* be set free again, it is called *potential* energy (*L. L. potentialis*, from *possum*, I can).

Suppose my hand exercises a force represented by *A B* upon your hand, and your hand resists the pressure by exercising an equal force in the opposite direction *B A*, there will be no motion. Let the stress between the two hands represent the force of *A B*+*B A*. This stress is latent energy; it is potential and can be converted into an energy of motion, or, as it is termed, into *kinetic* energy.

If it takes a pressure of *A B* to set the spring of a toy gun, the spring will exercise the same amount of force (*B A*) upon the catch that keeps it compressed. There will be no motion, so long as the catch is strong enough to endure the pressure *B A*. But the force *B A* is not annihilated; it still exists as potential energy and can be set free at any moment by the removal of the catch, which is done by pulling the trigger. The pressure *B A*, that the spring exerts, was created through the expenditure of the force *A B* during the act of setting the gun. The spring is, so to say, loaded, it is freighted with a certain amount of energy; and if the trigger is pulled, a kind of explosion takes place—i. e., kinetic energy is suddenly set free, which is available for doing work. In a toy gun it is used for throwing pebbles or peas.

A house of cards in the same way represents potential energy. One card keeps the other standing by pressure and counterpressure. If through the interference of some change the pressure of one card ceases to be quite equal to that of the other, the house breaks down, thus changing stress into motion—or, in other terms, thus changing potential energy into kinetic energy.

The building up and breaking down of a house of cards is a process visible in all its details. But there are chemical compositions that are similar to such houses of cards, yet do not show the details of the building up and breaking down. It takes a certain amount of energy to build them, and they thus contain potential energy. Whenever a very small change, a slight concussion, an increase of temperature, or a spark, can cause their breakdown, they are called "unstable." Gunpowder and all other explosives are of this character.

Although kinetic energy may disappear when it is changed into potential energy, yet energy itself cannot be destroyed. Neither can it be produced. Like matter, energy is indestructible.

The question now arises: Is vital force different from both these energies? And the unequivocal answer is, No! The energy which living beings expend in their activity, in their motions, their passions, and in their thought, is the same energy that we meet with everywhere, and which is produced in animal bodies in a more complicated way, yet in a similar manner as work is done by machines.* As machines are fed by coal and heated by the combustion of coal, so the animal receives food, which through the organs of digestion is assimilated and transformed into highly complicated, unstable combinations. Like gunpowder, or like a drawn spring, these unstable combinations contain potential energy. An unstable combination of high complexity, when breaking down into a more stable combination of less complexity, sets free that quantity of kinetic energy that was necessary to build it up and to keep it in a state of tension. In the animal body, as in the fire-box of a steam-engine, a process of combustion takes place: the exceedingly unstable oxygen of the air combines with carbon and nitrogen compounds, which are also unstable and to which oxygen bears a great affinity, i. e., it easily combines with them into more stable compositions. All the details of this process are not yet fully known and calculated; but the theory itself can no longer be doubted.

Combustion means oxidation; and oxidation, converting substances into more stable combinations, sets energy free, which appears either as heat or as work performed. The process of oxidation in the fire-box of a steam-engine is a luminous process, while in the body it is not strong enough for developing visible flames. Oxygen, in the process of combustion, unites with carbon into carbonic acid and leaves behind water and other incombustible parts.

Oxygen is conveyed into the body by respiration; in the lungs the blood is oxidized, which carries the oxygen to the different organs. Through the oxidation of the tissues in the nerves, in the muscles, and in other living substances, potential energy is set free which partly appears as heat, partly as work per-

* Leibnitz called a force that acts as motion of some form "*vis viva*," or "living force." He defined *vis viva* as twice the mass times the velocity, 2 *M V*. But now the term kinetic energy (from *κινεῖν*, to move), energy of motion, has become customary, and we understand by kinetic energy half the mass times the square of velocity ($\frac{1}{2} M V^2$). See Maxwell, *Theory of Heat*, page 90.

* See Gavarret, *De la chaleur produite par les êtres vivants.*

formed. The heat is called animal heat, the work performed is the movements of the body. The products of the oxidations are carbonic acid, water, and certain nitrogen compounds, which are given off in the secretion of urine, in the air expelled from the lungs in breathing, and through perspiration.

Professor Bunge in Basel has again recently adopted the expression vital energy. Bunge justly maintains, that the forces that appear in a living animal organism are entirely different from all other forces in nature. In this manner he re-admitted the obsolete term vitalism. In Professor Bunge's writings, however, the term vitalism is in so far modified and modernized, that the Professor does not at all contest that this vital energy is just as much energy as any mechanical movement, heat or electricity, and that it originates by way of transformation from other forms of energy. Vital energy is nevertheless entirely different from other forces, even as electricity differs from heat or from visible motion, from friction, or from light.

In the old electric machine friction is transformed into electricity, and we know that electricity as well as friction is a certain mode of motion: still electricity is not friction. Thus, vital energy is likewise quite a special form of energy, which form is different from all the other forms of energy from which it can be produced.

Vitality is an energy just as well as all other energies, but its form is peculiar; it is neither electricity, nor light, nor heat alone, nor any other energy we know of, although it may be more or less similar to the one and to the other. Vitality originates from the same great reservoir of energy as all the other forms of energy, and it stands with them in a constant interaction. Yet the only engine by which, to our knowledge, vital energy can be created, is the animal organism. According to the present state of knowl edge, we can, to say the least, hardly expect to be able to produce vital energy in any other manner. This truth is most concisely formulated in the statement that life comes from life only.

IS THE UNIVERSE MORAL?

A LETTER FROM MR. FRANCIS ELLINGWOOD ABBOT. WITH A REPLY BY DR. PAUL CARUS.

I.

DR. PAUL CARUS:—

DEAR SIR:—I am obliged to you for your very kind letter, inviting me to reply to your criticisms on my recent address in the columns of THE OPEN COURT. Although extremely pressed for time, I cannot forbear showing my respect for your frankness and courtesy by at least a few words on one or two main points. In devoting itself so largely to philosophical subjects, THE OPEN COURT probably sacrifices something of popularity and immediate influence on affairs; but I ought not to let slip this opportunity of expressing my appreciation of its great improvement in the editorial columns, in point of ability and interest for thinkers, since you have had charge of it.

Under your predecessor, the standing notices announced that the paper was devoted to "Monism and Agnosticism, as positive and negative aspects of the one and only rational scientific philosophy." A more inane or self-contradictory position than this it would be difficult to imagine. Monism is a definite theory of the universe in its unity and wholeness, as a known noumenal reality; Agnosticism is the principle that every such theory is groundless, and that human knowledge is strictly limited to phenomena. To profess Monism and Agnosticism at the same time, therefore, betrays hopeless ignorance of the very *A B C* of philosophy. No such ludicrous blunder is chargeable to you. Your bold and explicit rejection of Agnosticism, as utterly unphilosophical in principle, has commanded my admiration and hearty sympathy; and, while I often differ from you, I am quite as often struck by your genuine insight and penetration into principles about which so many flounder in impotent bewilderment.

There is an instance of this among your criticisms of my address, many of which however are based on a hasty misreading of it. I quote your own words here:—

"The relations among things, the forms of things, are realities also [as well as matter]. They are not materialities, not things, but they are real, nevertheless They are most important realities, and all higher life, all intellectual existence, and all ethical inspiration depend upon them. *The world of forms, indeed, is identical with spirituality.* [Your own italics.] . . . . We do not accept Kant's position. We say: The thinking subject is a part of the objective world. The same laws hold good for both. It is all but impossible that the formal laws of the one should be different from the f rmal laws of the other . . . . . The highest laws of nature are the laws of form."

All this is most admirably said. Follow out those principles and you will come to agree with me where you now think you most dissent.

Is not the MORAL LAW the highest formal law of the thinking subject? Does it not give form, meaning, and worth to the highest personal activity? Very well, then; you yourself see, and say, that "it is all but impossible that the formal laws of the one [the thinking subject] should be different from the formal laws of the other [the objective world]; and from this it must follow that the Moral Law is a formal law of Nature, and the highest of all her known laws. Hence, on patient and calm reflection, you will recall your "most emphatic objection" to my position that morality is the all-pervading law of the universe; you will withdraw your declaration that "the universe, or, if you prefer, God, is neither moral nor immoral." For your own principles, quoted above, are my best answer to these criticisms.*

Another point, connected with the foregoing. You say: "The Universe is a law unto itself; and concord with that law is morality." This is most truly and most beautifully said, *provided the law of the Universe is the Moral Law;* but it is utterly untrue, and as utterly unbeautiful, *if that law is mere blind, unintelligent, unmoral Force.* If the latter alternative is the truth, morality consists in defying the law of Force even unto death, and obeying that Moral Law which man knows and the Universe knows not—though how man can know any law which is not a law of the Universe itself, you altogether omit to explain.

Think more deeply, and more consistently with your own best insights, and you will begin to see more truth than you imagine

* In fact, you expressly say, in your "Fundamental Problems," p. 152: "The idea of a God as the possible presence of a Moral Law in the world to which we have to conform, is a conception of pure thought, which involves no self contradiction." I do but show positive grounds for this possible conception.

now in the positions you controvert. They will bear study—long and close study; and the reward will be great.

I have time left for only one correction of your rather numerous misapprehensions of my meaning. You say:—

"The person is a perfect organism, and the organism is a perfect machine. But not *vice versa:* not every machine is a perfect organism, nor every organism a perfect person." And you seem to suppose that I meant to affirm they were. Allow me to quote what I actually said:—

"Each and every one of us, is, at once, a Machine, an Organism, and a Person; each and every one of us comes under the law of Causality in Motion, of Finality in Life, and of Morality in Conduct. The three types and the three principles are united in one harmonious system and one harmonious action in the Person, and *in the Person alone; they meet, they unite, in nothing else within the whole scope of human experience.* Here, then, in human experience and positive science, lies the only possible foundation for a scientific conception of the universe which shall embrace within itself all the elements of known truth. The Machine involves, but does not explain, the Organism; the Organism involves, but does not explain, the Person; but the Person both involves and explains the Organism and the Machine. All types of real being, therefore, are united and identified in the constitution of the Person; all principles of real being are united and identified in in the principle of Personality."

If you compare your words with mine, you will see that we said precisely the same thing, and do not differ on this point at all.

It is a pleasure to find a critic who does not, like some others, feel afraid to "go into a consideration of the arguments." Perhaps, when you have pondered as long as I have the profound question, *What is the Form of Nature?* you may arrive at the same answer, *Personality.* But, even if not, it will not lessen the respect or the sincerity with which I subscribe myself,

Very Truly Yours,

CAMBRIDGE, MASS., Jan. 8, 1890. FRANCIS E. ABBOT.

II.

MR. FRANCIS ELLINGWOOD ABBOT:—

DEAR SIR:—If you understand by "moral" that which is good, or that which has, perhaps better that which ought to have, every one's approbation, I do not hesitate to call the laws of the Universe moral. But in that case you are obliged to explain what you understand by "moral or good." People are not at all agreed upon that which is to be called good; and certainly sentimental goodnaturedness is not a quality of the Universe. In that sense God is not good.

If you understand by "Morality" the conformity of an individual to the laws of the All, you cannot properly call God or the Universe moral. God then may be called the standard of morality; its objective ground and the determinative measure to which all moral rules must be referred in order to be tested.

But we do not haggle about words. I have no objection to your usage of the word "moral," provided you do not attach an anthropomorphic conception to the word. And I hope that these few sentences suffice to explain my meaning when I say: The All is non-moral; it is as it is; and we are moral in so far as we are in conformity with its laws.

* * *

Our difference in the usage of the word "moral" does not seem to imply a difference of opinion. There is another difference, however, concerning which I am not so sure. You say: "The moral law is the highest formal law of the thinking subject." Morality, it is true, is, as it were, the logic of conduct. Morality is based on the laws of formal thought, and ethics, the science of morals, is a regulative science. All regulative sciences are based on the laws of form. Arithmetic is the regulative science of calculation; it contains purely formal statements, and its figures are empty abstractions. But such purely formal statements, as for instance, 'five times five is twenty five,' hold good under all circumstances; and the empty figures may be applied to apples as well as to suns or planets, and they will ever prove reliable. Thus ethics, as Kant has shown in his excellent monograph on the subject, has its formal aspect; it must, as a logic of conduct, be based upon the laws of form Nevertheless, I object to calling ethics a formal science, for all formal thought, abstractly considered, is empty. Mere formal ethics, like pure logic or the empty figures of arithmetic, is an abstract "ought" that is applicable to the code of a band of pirates just as well as to the laws of a society of honest men.

The logic of conduct has a special content which is derived from experience A purely formal ethics would remain without application; it would be like Aristotle's formal logic, in which the most foolish and futile propositions can be made; they remain correct so long as they do not contain contradictions Yet valuable though purely formal logic may be to free our minds from errors, this science will never help us to find out a positive truth. For that we have to go to the ever-flowing well of facts, we must face the actualities of real life and gather in the treasures of experience. Purely formal ethics has no value, unless it derives its content from, and again applies it to, experience.

Why do we consider it wrong to kill a man, yet eat the meat of oxen and other animals which we know have been slain for that purpose? There is no apriori answer to this question; it is a matter that has to be decided, not by formal laws, but by experience; although, as a matter of course, experience must be guided by the calculation and foresight which become possible through an application of formal laws. The thinking subject therefore cannot evolve out of itself alone the moral law by an apriori process of reasoning The thinking subject must study nature and must then comply with nature's laws. By nature I do not mean here the earth, its mountains and vegetation, but all that is, human society and the laws of human society included.

You are very strong yourself on this point, that God or Nature can be, and must be, scientifically investigated. Will you limit the source of information to the formal merely?

I have devoted to this question more space than its importance seems to command. It may be that we agree on this point. Yet it is a question of principle; it is the principle of method (it is the method, how to arrive at a statement of that which must be considered as moral); and whether we agree or not, we ought first to be clear about the principles upon which we stand and from which we proceed.

* * *

The main difference between our positions, unquestionably, is our conception of the idea of God. You call God a person, and I reject the personality of God. God is that power of the All which has produced us, which lives in us, and which commands our obedience. So long as we observe its behests, it will live in us; and so long as it lives in us, we shall continue to live. Although this form of life, the bodies in which we now live, may be broken, God will rise again and again in other and similar forms, undestroyed and indestructible.

God, as I conceive him to be, is not less than a person, but more than a person. The frailty of personality does not apply to him; there is no limitation, no individuality, no distinct idiosyncrasy about him. He is not (as according to my conception every person is) one special form and combination, yet he is the universality of law, inflexible, immutable, eternal. You can adapt yourself to him, but you can never adapt him to yourself. The hea-

thenish custom to attempt an adaptation of God to ourselves, is not yet extinct in Christianity.

It is for that reason that I prefer the expression "God is non-moral," because I look upon God as the highest and ultimate and absolute authority of that which has to be considered as moral. When you call God moral, you imply that he is in conformity with the highest law of the Universe. In that case the moral law is more divine than God, and God would be divine only in so far as he is in harmony with it. A God who is moral, whether he be impersonal or a person, becomes redundant for those who make the highest law of the Universe their God. Let us obey that very highest authority, to be in conformity with which even Gods are endeavoring, and we need not mind the wrath or favor of any divine personality, for that law is ths supreme God, it is the only true God.

Certainly the Universe is not mere force, but is force ruled by law. I find that "Law" and "Force" are often called blind by naturalists. Natural laws are called blind, I suppose, because they allow of no exception whatever; because they do not adapt themselves to circumstances, as persons might do. But is not the expression "the blind laws of nature" nevertheless a contradiction, or at least an inadequateness of simile? If natural laws do not adapt themselves to us, we must in our turn adapt ourselves to them. But is that any reasonable pretence for calling them blind? Certainly not; for they make it possible that we need not grope blindly about; being irrefragable, they throw light upon natural phenomena and thus become our guides and teach us, how we can adapt ourselves to nature.

We welcome the idea that God is no person, but a law; not a being adaptable to circumstances, but an irrefragable authority, no deified egotism but the omnipotent power of All-existence! This idea is the republican conception of theology which can conceive of order and of law without a Prince, and of religion without the fetish of anthropomorphism.

We have no objection to representing the moral law of the Universe to which we have to conform, as a person. We may compare it to a father, and with Christ call it "Our Father," just as well as we like to speak of Mother Nature. But we wish to have it understood that this expression is a simile only—a simile which, if carried out, will lead to serious misconceptions.

Respectfully Yours,

PAUL CARUS.

CORRESPONDENCE.

GOETHE AS A CELIBATE AND AS A MORAL GUIDE.

To the Editor of THE OPEN COURT:—

TO CLARIFY matters for Prof. Calvin Thomas, permit me to say that Goethe in his thirty-ninth year took under his protection Christiane Vulpius, a young girl, in no way his social or intellectual equal; for over twenty years she remained his mistress, and when nearly sixty he married her from apprehensions as to the position of his eldest son. As a matter of courtesy his "conscience marriage" might entitle him to be ranked with the married, but we do not feel that he acquired any right to such position until after his conceptions of life and duty had taken a form which his seven to ten years of actual married life did not and could not in the nature of things substantially change.

In our article "Marriage vs Celibacy" we maintained that Goethe was not a safe moral guide to the young in matters relating to the sex-impulse—we still hold this view.

Professor Thomas evidently belongs to that class of Goethe's admirers, who, as Bebel says, "read, without the slightest moral indignation, how Goethe wasted the warmth of his heart and the enthusiasm of his great soul on one woman after another." Goethe neither in his life nor works idealizes love. Meister, Faust, Edward, Werther were of the earth earthy; each must have his "pound of flesh."

Not only what we know but what it is possible for us to conceive depends upon what we have experienced. Goethe's experience unfitted him for dealing with the sex-passion; he had never felt or said to himself: this *one* and *no other*. The instinct of promiscuity was strong in him, and Professor Thomas unwittingly bears testimony to this fact when in reference to *Meister*, and *Elective Affinities*, he says: "No one can read either until he is old enough to distinguish between depicting immorality and recommending it."

Nature has a Nemesis for every sin. One cannot have lived an impure or irregular life without showing the effect in his writings, and will unconsciously instill ideas that debase. As Goethe says in Meister, "whoever spends his early years in mean and pitiful society, though at an after period he may have the choice of better, will yet constantly look back with longing towards that which he enjoyed of old, and which has left its impression blended with the memory of all his young and unreturning pleasures."

The question of Professor Thomas, whether I regard wedlock as consisting not in the mutual fidelity of husband and wife, but in an ecclesiastical sanction, is certainly a strange one. Does Professor Thomas not believe that in civilized society there must, in the sex-relation as in all other matters involving the integrity or welfare of the community, be something firmly settled by law, some controlling power stronger than the "moral fibre of a man"? Does he not recognize with Matthew Arnold, that conscience is the most changing of rules; conscience in the strong is presumptuous, in the timid, weak, and unhappy wavering, in the undecided, an obedient organ of the sentiments that sway us; more misleading than reason and nature?

On this question Goethe himself says, "It is essential that we lay down and continually impress on men certain laws, to operate as a kind of hold in life. Nay, I could almost venture to assert, that better to be wrong by rule than be wrong with nothing but fitful caprice of our disposition impelling us hither and thither. And in my way of viewing men there always seems to be a void in their nature which cannot be filled up except by something decisive and distinctly settled."

Goethe is always read with profit by the thoughtful and mature, for his motto in life was that of his hero Faust:

> "All of life for all mankind created, shall be within my inmost being tested."

And as Madame Roland said, "those who have seen much are always worth hearing, and those who have felt much have always seen more than others."

Goethe had certainly both seen and felt much, and hence those who know how to follow Shakespeare's advice, "Do not pick bad from bad, but by bad mend," can read him with benefit.

NEW YORK, January, 1890. SUSAN CHANNING.

NOTES.

Dr. Morrison I. Swift will give a course of lectures, in Philadelphia, during the month of January, on topics of "Social Economy."

The *Magazine of American History* for January, contains a highly entertaining article by the editress, Mrs. Lamb, upon "William Cullen Bryant in History." The magazine presents its usual wealth of historical matter. (New York, 547 Broadway).

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